UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XD158NM

Site Name: Very Shallow

Precipitation or Climate Zone: 13 to 18 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on upland plains, on top slopes of hills and ridges where soil is very shallow over unfractured limestone. Slopes vary from 1 to 15 percent but are generally less than 9 percent. Direction of slope varies but is not significant. Elevations range from 4,000 to 7,000 feet above sea level.

Land Form:

1. Plain
2. Hillside
3. Ridge

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	4,000	7,000
Slope (percent)	1	15
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area is "semi-arid continental."

The average annual precipitation ranges from 13 to 18 inches. Variations of 5 inches, more or less, are not uncommon. Approximately 70 percent of this occur from May through October. Most of this summer precipitation comes in the form of high-intensity, short-duration thunderstorms. Winter moisture is usually negligible.

Distinct seasonal changes and large annual and diurnal temperature changes characterize temperatures. The average annual temperature ranges from 55 degrees F to 60 degrees F, with extremes of –20 degrees F in the winter and 110 degrees F in the summer.

The average frost-free season is 180 to 200 days. The last killing frost being in early April and the first killing frost in mid-October.

Both the temperature and precipitation favor warm-season species. Approximately 40 percent of the precipitation is favorable to cool-season plant growth at higher elevations. Due to the shallow soil profile, the vegetation on this site responds well to short duration gentle rains. Heavy rains produce excess runoff, which can cause flash flooding, and soil erosion. Strong winds blow from February through June from the west and southwest. This causes the soil to dry during a critical period for cool-season plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	160	191
Freeze-free period (days):	180	221
Mean annual precipitation (inches):	13	18

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.47	.56	21.4	56.6
February	.50	.54	23.8	62.1
March	.49	.57	28.5	68.5
April	.54	.60	35.0	76.7
May	1.13	1.44	43.2	83.5
June	1.78	1.84	51.6	92.2
July	1.87	2.98	55.7	92.1
August	2.29	3.26	54.2	90.3
September	2.67	2.80	48.2	84.3
October	1.24	1.40	37.6	76.7
November	.53	.55	27.5	65.5
December	.60	.68	21.6	57.8

Climate Stations:

				Period		
Station ID	292865	Location	Elk 2E	From: 6/1/1895	To:	12/31/00
Station ID	294112	Location	Hope	From: 03/01/19	To:	12/31/00

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils of this site are well drained, very shallow to shallow over unfractured limestone. Surface textures are cobbly loams, stony or rocky loams, and cobbly silt loams. The limestone bedrock is normally 6 to 10 inches with outcropping common. Permeability is moderately slow and available water-holding capacity is low. These soils are thermic in nature.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Cobbly loam
2. Stony or rocky loam
3. Cobbly silt loam

Surface Texture Modifier:

1. Cobble
2. Stone
3.

Subsurface Texture Group: Unweathered Bedrock
Surface Fragments <=3" (% Cover): 35 to 60
Surface Fragments >3" (% Cover): >60

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Moderately slow	Moderately slow
Depth (inches):	4	20
Electrical Conductivity (mmhos/cm):	0.00	2.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	7.9	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	3	6
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This is a grassland site with warm season mid and short grass aspect. There is a fair scattering of shrubs and half-shrubs throughout the landscape. Trees and shrubs increase with elevation. Forb production fluctuates greatly from season to season and year to year. Surface rock and bare soil is abundant throughout the site. Production and composition may vary widely with elevation.

Canopy Cover:	
Trees	3 %
Shrubs and half shrubs	3 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	28
Bare ground	43
Surface cobble and stone	22
Litter (percent)	1
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	145	392	638
Forb	33	88	143
Tree/Shrub/Vine	70	189	308
Lichen			
Moss			
Microbiotic Crusts			
Total	250	675	1,100

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOER4	Black Grama	135 – 270	135 – 270
2	BOCU	Sideoats Grama	34 – 68	34 – 68
3	TRIDE	Tridens spp.	68 – 169	68 – 169
4	SPORO BOGR2	Dropseed spp. Blue Grama	34 – 68	34 – 68
5	MUTO2 SCBR2	Ring Muhly Burrograss	34 – 68	34 – 68
6	ARIST	Threeawn spp.	34 – 68	34 – 68
7	MUSE ERIN	Curlyleaf Muhly Plains Lovegrass	68 – 101	68 – 101
8	LYPH	Wolftail	14 – 34	14 – 34
9	PAHA	Hall's Panicum	14 – 34	14 – 34
10	2GRAM	Other Grasses	14 – 34	14 - 34

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	THAC ERIOG CROTO	Prickleaf Dogweed Wildbuckwheat Croton spp.	14 – 34	14 – 34
12	PACAL5	Wooly Groundsel	7 – 34	7 – 34
13	DYPA LESQU 2FORBS	Fetid Marigold Bladderpod Other Forbs	7 – 20	7 - 20

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	MIACB	Catclaw Mimosa	14 – 34	14 – 34
15	NOMI	Sacahuista (Nolina)	14 – 47	14 – 47
16	YUCCA SOTOL AGPA3	Yucca spp. Sotol Century Plant	14 – 34	14 – 34
17	OPSP2	Cholla	7 – 14	7 – 14
18	GUSA2	Broom Snakeweed	14 – 34	14 – 34
19	2SD	Other Shrubs	14 – 34	14 – 34

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses which could appear on this site include: hairy grama, fluffgrass, little bluestem, green sprangletop, mat muhly, silver and cane bluestem, tobosa, plains bristlegrass, bottlebrush squirreltail, and New Mexico feathergrass.
Other shrubs would include: lechuguilla, algerita, mountainmahogany, dalea spp., sumac spp., juniper, creosotebush, oak spp., Bigelow sagebrush, fourwing saltbush, yerba-de-pasmo, ephedra spp., range ratany, and javelina bush.
Other forbs would include: fleabane, cutleaf haplopappus, wooly Indianwheat, yarrow, dyssodia, globemallow, desert baileya, wooly loco, verbena, prickly poppy, and whorled milkweed.

Plant Growth Curves

Growth Curve ID **4607NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Mixed mid/short warm-season grasses w/ shrubs and half-shrubs, trees at high elevations.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitat which supports a resident animal community characterized by desert cottontail, rock squirrel, cactus mouse, white-throated woodrat, coyote, bobcat, roadrunner, sparrow hawk, cactus wren, mourning dove, wren, scaled quail, collared lizard, red spotted toad, and rock rattlesnake. Mule deer may use this site during certain periods of the year.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series	Hydrologic Group
Deama	C
Ector	C
Tortugas	C

Recreational Uses:

This site offers recreation potential for hiking, backpacking, horseback riding, nature observation and photography, rock hounding and hunting for quail, dove, mule deer and varmints. Trapping for fur-bearing animals is good. In certain years, the century plants and yucca dominate the landscape.

Wood Products:

Century plant and cholla used for ornamental plants.

Other Products:

Grazing:

This site is suited for grazing by all kinds and classes of livestock during all seasons of the year. South facing slopes usually receive more intensive use during the spring, due to early green-up. The north slope usually receives more intensive use in the summer. This site responds well to a planned system of grazing which rotates the season of use. Under continued mismanagement, there will be an increase in plants such as fluffgrass, tridens spp., threeawn spp., ring muhly, fetid marigold, cactus spp., and broom snakeweed. Plants such as black grama, sideoats grama, and blue grama will decrease. Under good management, the above plants can increase in percent composition. Predator control may be needed during calving periods or when grazing with sheep or goats.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	3.8 – 5.2
75 – 51	5.0 – 6.8
50 – 26	6.5 – 11.5
25 – 0	11.5+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Hall's Panicum	Panicum hallii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P

Animal Kind: Livestock
Animal Type: Goats

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Catclaw Mimosa	Mimosa aculeaticarpa	L	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Apacheplume	Fallugia paradoxa	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Mountainmahogany	Cercocarpus montanus	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Chavez, Eddy, Lincoln, Otero**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Otero, Eddy, Chaves, Lincoln

Characteristic Soils Are:	
Deama	Ector
Tortugas	
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	02/02/82	Donald H. Fulton	03/03/82

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	07/12/02	George Chavez	12/17/02